



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,227	12/11/2001	Benoit R. Veillette	US010594	3093

24737 7590 08/04/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER

TAYLOR, BARRY W

ART UNIT	PAPER NUMBER
----------	--------------

2643

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/014,227

Applicant(s)

VEILLETTE, BENOIT R.

Examiner

Barry W. Taylor

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. Figures 1-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 11 recites the limitation "said servo-loop circuit" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "said servo-loop circuit" in line 1. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2643

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 8-9 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art.

Regarding claim 1. Applicants openly admit that prior art teaches a receiver circuit (see RECEIVER in figure 1), comprising:

a switch for blocking high voltages and for converting voltage signals to current signals (see T/R switch in figure 1), said switch comprising first and second signal terminals (see conventional T/R switch depicted in figure 4B wherein first terminal is labeled as 405 and second terminal labeled as 410) and a control terminal (see control terminal labeled as 400 figure 4B) said switching exhibiting an ON resistance when closed, said ON resistance controlled by an electric value at said control terminal;

a control circuit coupled to said switch for controlling said ON resistance of said switch in closed position (see figure 4A and Applicants admitted prior art at top of page 4 in Applicants specification wherein control circuit shown used to control resistance of T/R switch shown in figure 4B).

Regarding claim 2. Applicants openly admit that prior art already teaches T/R switch (see T/R SWITCH in figure 1) used to couple transducer (see TRANSDUCER figure 1) and low-noise amplifier (see LNA coupled to other side of T/R switch in figure 1).

Regarding claim 3. Applicants admit that conventional T/R switch is open during transmission time and closed during a reception time (see Applicants specification page 3 line 19 – page 4 line 24).

Regarding claim 4. Applicants admit that receiver circuit of claim 2 wherein low-noise amplifier circuit requires an input resistance (see  $R_i$  for LNA circuit shown in prior art figure 5) and a feedback resistance (see  $R_F$  for LNA circuit shown in prior art figure 5), and further wherein on resistance of switch is input resistance of said low-noise amplifier circuit (see  $R_O$  of switch inputted to resistance of LNA figure 5).

Regarding claim 8. Applicants openly admit that prior art teaches a receiver circuit (see RECEIVER in figure 1), comprising:

a T/R switch for blocking high voltages and for converting voltage signals to current signals (see T/R switch in figure 1), said T/R switch comprising first and second signal terminals (see conventional T/R switch depicted in figure 4B wherein first terminal is labeled as 405 and second terminal labeled as 410;

a low-noise amplifier (see LNA of admitted prior art figure 5) for amplifying low-voltage pulses while minimizing electronic noise, said amplifier circuit requiring an input resistance (see  $R_i$  figure 5) and feedback resistance (see  $R_f$  figure 5), wherein said input resistance is said ON resistance of said T/R switch (see figure 5 wherein  $R_{on}$  of switch must match input impedance of LNA).

Regarding claim 9. Applicants already admit that prior art teaches control terminal (see control terminal labeled as 400 figure 4B) said switching exhibiting an ON

Art Unit: 2643

resistance when closed, said ON resistance controlled by an electric value at said control terminal, the receiver circuit further comprising a control circuit coupled to said switch for controlling said ON resistance of said switch in closed position (see figure 4A and Applicants admitted prior art at top of page 4 in Applicants specification wherein control circuit shown used to control resistance of T/R switch shown in figure 4B).

Regarding claim 13. Method claim 13 is rejected for the same reason as apparatus claims 1 and 8 since the recited apparatus would perform the claimed method steps.

Regarding claim 14. Applicants openly admit that prior art already teaches T/R switch (see T/R SWITCH in figure 1) used to couple transducer (see TRANSDUCER figure 1) and low-noise amplifier (see LNA coupled to other side of T/R switch in figure 1).

Regarding claim 15. Applicants admit that conventional T/R switch is open during transmission time and closed during a reception time (see Applicants specification page 3 line 19 – page 4 line 24).

Regarding claim 16. Applicants admit that receiver circuit of claim 2 wherein low-noise amplifier circuit requires an input resistance (see  $R_i$  for LNA circuit shown in prior art figure 5) and a feedback resistance (see  $R_F$  for LNA circuit shown in prior art figure 5), and further wherein on resistance of switch is input resistance of said low-noise amplifier circuit (see  $R_O$  of switch inputted to resistance of LNA figure 5).

4. Claims 5-7, 10-12 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Selin et al (4,637,073).

Regarding claims 5-7, 10-12 and 17-19. Applicants admit that prior art (see figures 1-5) fail to show a servo-loop depicted in figure 7.

Selin teaches Transmit/Receive switch (title, abstract) wherein Bias Control unit (see items 70 and 72 figure 2) used to selectively switch between ON and OFF states thereby reducing insertion loss of the circuit (col. 3 lines 1-68).

It would have been obvious for any one of ordinary skill in the art at the time of invention to utilize the teachings of Selin into the teachings of Applicants admitted prior art in order to selectively control the T/R switch to switch into high impedance when transmitting signal and switch into low impedance state when receiving signal as taught by Selin (col. 3 lines 8-23).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor, telephone number (571) 272-7509, who is available Monday-Friday, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached at (571) 272-7499. The central facsimile phone number for this group is **571-273-8300**.

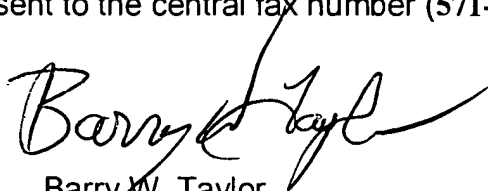
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 2643

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Centralized Delivery Policy: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the central fax number (571-273-8300).

A handwritten signature in black ink, appearing to read "Barry W. Taylor". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Barry W. Taylor  
Patent Examiner  
Technology Center 2600  
Art Unit 2643

JUN 25 2002

Approved  
 BWT  
 8/1/05

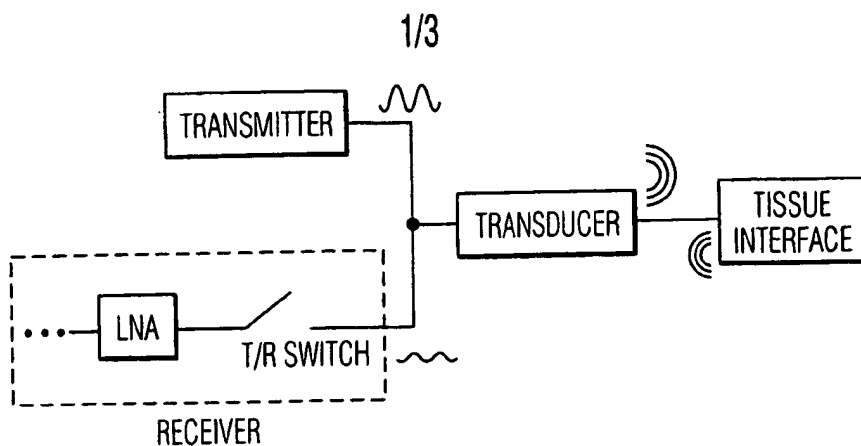


FIG. 1

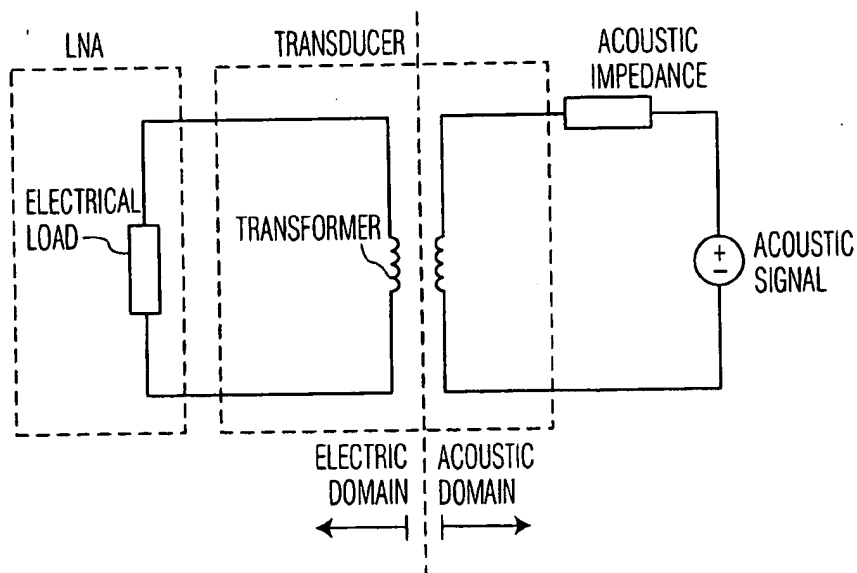


FIG. 2

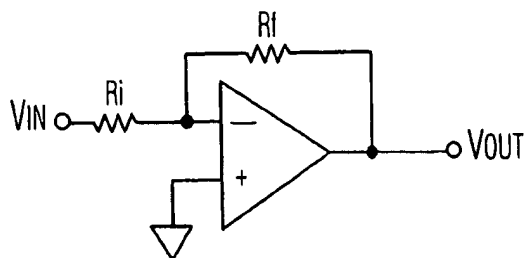


FIG. 3

Approved  
 BUT  
 8/11/05

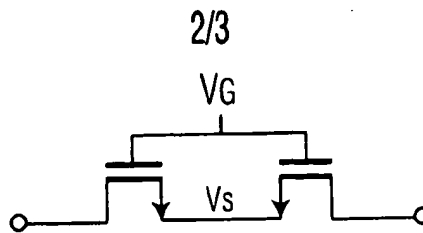


FIG. 4A

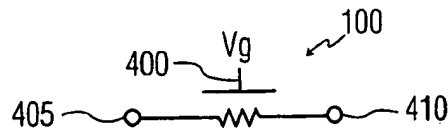


FIG. 4B

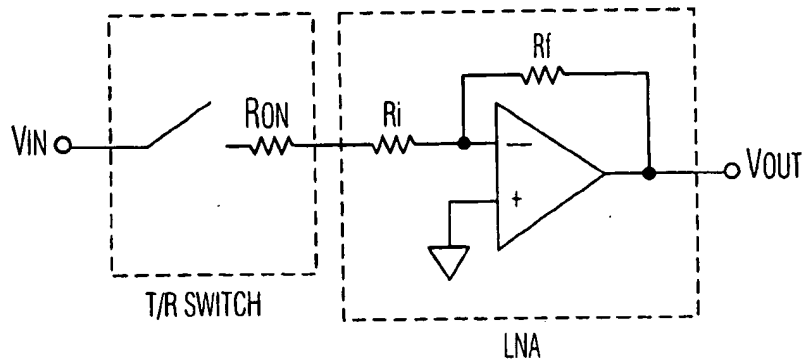


FIG. 5

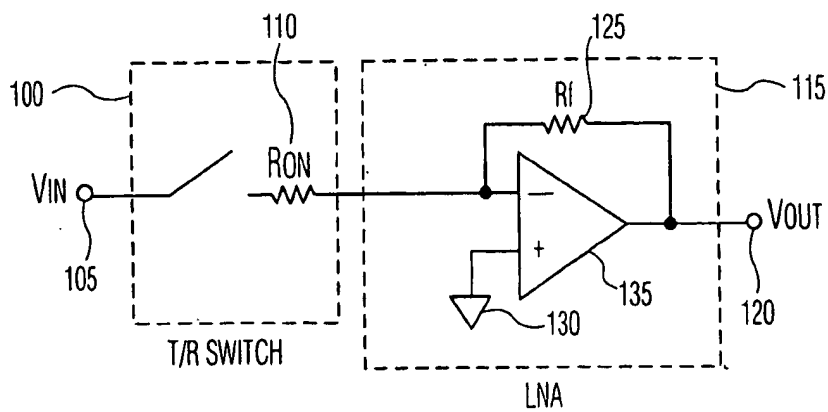


FIG. 6

3/3

Approved  
BWT  
8/11/05

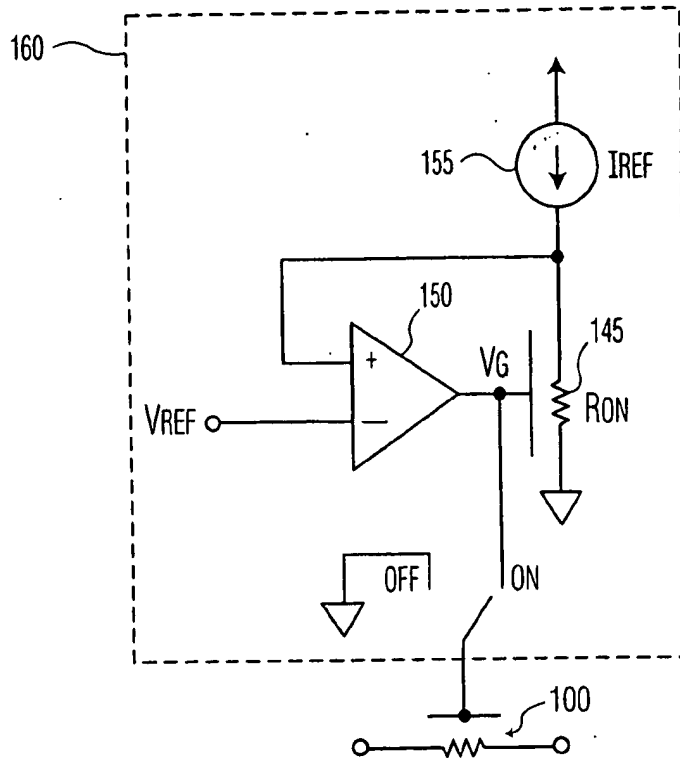


FIG. 7